



## The prevention of mother-to-child HIV transmission programme and infant feeding practices

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Since the first cases of HIV transmission through breast-feeding were documented, a fierce debate has raged on appropriate guidelines for infant feeding in resource-poor settings. A major problem is determining when it is safe and feasible to formula-feed, as breast-milk protects against other diseases.

A cross-sectional survey of 113 women attending the programme for the prevention of mother-to-child transmission in Khayelitsha, Cape Town, was conducted.

Over 95% of women on the programme formula-fed their infants and did not breast-feed at all. Seventy per cent of women said that their infant had never had diarrhoea, and only 3% of children had had two episodes of diarrhoea. Focus groups identified the main reasons for not breast-feeding given by women to their families and those around them. Formula feeding is safe and feasible in an urban environment where sufficient potable water is available.

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Infants can acquire HIV from their mothers during pregnancy, at delivery, or through breast-feeding. About 20% of transmissions occur during pregnancy and the remaining 80% during delivery and through extended breast-feeding up to 24 months.<sup>1,2</sup>

In the absence of interventions to reduce mother-to-child transmission (MTCT), studies show that between 25% and 45% of HIV-infected breast-feeding women pass the virus to their infants. The rate of HIV transmission through breast-milk ranges from 12% to 26%, depending on the duration of breast-feeding, the time since HIV infection and the presence of mastitis or other systemic infections.<sup>3</sup> HIV can be transmitted through breast-feeding at any time, although there is evidence that the risk is greater earlier.<sup>4</sup> Twenty-five to 30% of HIV-infected infants die by 12 months of age, and about 66% (one-half to two-thirds) die by their fifth birthday.<sup>5</sup>

Between 1.1 and 1.7 million infants have become infected with HIV through breast-milk since the beginning of the HIV epidemic. The World Health Organisation (WHO) technical report on MTCT and HIV recommends replacement feeding where acceptable, feasible, affordable, sustainable and safe.<sup>6</sup> The great difficulty, which has given rise to fierce debate, lies in determining when the above conditions are met. Breast-milk protects against infections such as gastroenteritis and respiratory infections but also carries the risk of HIV transmission. Women are faced with the difficult choice of balancing the risk of transmitting HIV through breast-feeding

and the risk of increased morbidity through replacement feeding. In addition women who do not breast-feed may be stigmatised.

The Khayelitsha health subdistrict includes 2 midwife obstetric units (MOUs), 3 community health centres and 8 local authority clinics. The population is estimated to be 400 000 and there is migration to and from rural areas. In January 1999, the Western Cape Provincial Health Department implemented a programme for the prevention of MTCT (PMTCT) in Khayelitsha. The programme uses a short-course modified Thai regimen. This includes voluntary testing and counselling and the provision of zidovudine from 34 weeks' gestation and in labour. Women are encouraged to formula-feed, and formula is given free of charge to women who choose to do so until their infants are 9 months of age. Approximately 7 000 women deliver at the MOUs each year. The antenatal HIV positivity rate has increased from 15% in 1999 to 25% in 2002.

This study assesses the distribution and duration of feeding practices as well as the acceptability of different feeding practices among HIV-positive mothers in the PMTCT programme in Khayelitsha.

### Methods

A consecutive sample of 113 women were interviewed at clinics. Focus groups were held with 38 mothers to explore knowledge, attitudes, social constraints and general perceptions on infant feeding. All interviews were conducted in private in Xhosa and informed consent was obtained. Ethics clearance was obtained from the University of Cape Town.

Exclusive breast-feeding was defined as breast-milk only with no intake of other solids or liquids, including water or herbal teas. Formula feeding is defined as formula and no breast-milk, but other liquids not contraindicated.

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## Results

There was a 98% response rate. The mean age of mothers was 26 years (range 17 - 38 years). Eighty-seven per cent of mothers had less than three children. The mean age of babies was 12 weeks and there was an equal number of girls and boys. The median time of residence in Khayelitsha was 6 years (range 3 months - 15 years) and 86% of women stated that they would like to remain in Khayelitsha. Over 95% of women did not breast-feed at all. Three women breast-fed for 1 day and 2 women breast-fed for a week. Sixty-three per cent of women stated they took the decision not to breast-feed in view of their HIV status. Thirty-seven per cent stated that they were told by health staff (including counsellors) not to breast-feed because of their status.

Thirty per cent of mothers recalled that their infant had had one or more episodes of diarrhoea. Three women reported two episodes of diarrhoea. Seventy-one per cent of women had running water available either in their house or in their yard. Twenty-nine per cent of women had to walk a median time of 6 minutes to fetch water, and seventy five-per cent stated that they had electricity in their homes.

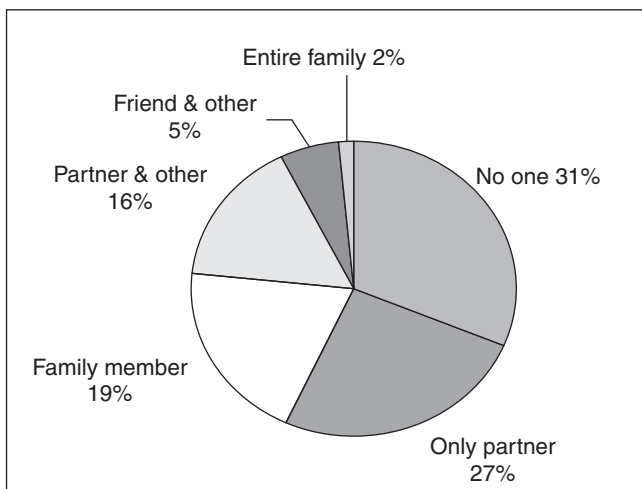


Fig. 1. General disclosure of HIV status.

Sixty-nine per cent of women had disclosed their HIV status to another person (Fig. 1). However, less than half the women had disclosed their status to the father of their child. When asked about disclosure in their household, 43% of women had not disclosed their status to any household member. Only 10% of women had disclosed their status to all members of their household.

Focus groups identified the main reasons women gave to their families and those around them for not breast-feeding. These included having a caesarean section, tuberculosis, high blood pressure, bad milk, problems with feeding the previous child, or that they were employed. Being employed frees mothers of the 'social obligation' of breast-feeding. In all focus

groups women stated that formula-feeding together with breast-feeding (mixed feeding) has been the norm for many years and went unquestioned. However, more questions were asked since the advent of HIV. One woman summarised this in the following way, 'When people ask me why I am formula-feeding what they are really asking is: am I HIV positive?'

Women who had previously breast-fed a child responded differently from those who had not. The latter group experienced regret, and one woman spoke of the emotional pain of not breast-feeding. All women felt that the choice of feeding method should remain with the mother whether she is working or not. As one woman said, 'a woman should not be forced to breast-feed just because she does not have a job'. Most women felt that the support groups provided an opportunity to discuss and share issues and emotions relating to the choice of feeding practice and ways to deal with this.

## Discussion

The overwhelming majority of women chose formula feeding and managed to formula-feed exclusively despite the fact that the stigma associated with HIV is still high. The three women who breast-fed for 1 day stated that this was while waiting to disclose at home. The 2 women who breast-fed for 1 week had wanted to breast-feed exclusively, but 1 fell ill and the other developed mastitis and both switched to formula feeding.

Most women felt that they had made a free choice and had not been coerced into replacement feeding. A recent study<sup>7</sup> has shown that child mortality as a result of the voluntary non-initiation of breast-feeding is much lower than previously estimated, after controlling for preceding morbidity in the mother or child. The study shows that there is a net HIV-free survival benefit of 13.2% associated with the voluntary non-initiation of breast-feeding, and that the use of formula increases overall child survival. Clear information should be given on the risks and benefits of different feeding practices early in the PMTCT programme, and women should decide themselves. The best way to support mothers is through antenatal support groups, which should be an integral part of PMTCT. The decision on feeding options should be made before the birth of the child.

According to the health information system in Khayelitsha the incidence of diarrhoea is low and has not increased since the introduction of the PMTCT programme.

Although the PMTCT programme had been running for 3 years, the fact that almost 40% of women had not disclosed to anyone in their household and that over 50% had not disclosed to the father of their child, indicates that stigma around HIV is still high. The burden of having to conceal their status and lie about the reason for formula feeding is heavy. The fact that some women reported rejection on disclosure of their status further indicates that stigma is high. Women accept testing, the constraints of weekly visits to the MOU, and not breast-feeding



in the hope of preventing HIV transmission to their children. This study shows that the conditions required for safe formula feeding are present in Khayelitsha.

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